March Mixed Waste Subgroup Highlights

The Hanford STCG Mixed Waste (MW) Subgroup met at 8 a.m. on March 27, 2001 in the EESB Stampede Room.

Kevin Leary led a discussion on when Hanford should invite representatives of the TRU & MW Focus Area (TMFA) to visit Hanford and meet with the subgroup. There are a number of MW related demonstrations taking place at Hanford in late April and early May. These include the cold demo for the size reduction of towers and ATG may also be having a demo. The purpose for the TMFA visit is to discuss Hanford's needs and their responses to them. We may focus on two or three needs and work with the TMFA on meeting them next year.

Jim Hanson showed the subgroup the entire Hanford S&T needs document and the CD-ROM. The needs are all now posted on the Hanford STCG web page. The Hanford S&T Assessment is now finished and out for review. This is also on the STCG web page. All subgroup members should review and comment on the assessment. Please send comments on the assessment to Jim Sloughter by April 9 at Noon. A short meeting of the subgroup will be held on April 10 to finalize the subgroup comments on the assessment.

The rest of the meeting was focused on reviewing the TMFA response to the Hanford MW needs. Jim Sloughter stated that there are a number of mechanisms to get TMFA funding. Large projects get funding through NETL, while there are also ASTD projects and financial assistance available for smaller efforts. Ken Quigley stated that the budget for Waste Management at Hanford has been cut from $100 million to $80 million. We need to keep this in mind because the Site may not have program funding or personnel to support efforts funded by the TMFA that require matching money. The subgroup then reviewed the MW needs and the TMFA responses need by need:

- RL-MW01 – Remote Macroencapsulation of RH MLLW Debris

  The date for meeting this need has been pushed out to 2005. This technology would be part of the M-91 facility that has been delayed.

- RL-MW02 – Remotely Controlled Size/Volume Reduction Techniques for RHMLLW and RHTRUW

  The TMFA is working with NETL to procure sizing and handling equipment to solve part of this need at Hanford. There is a cold demo scheduled of this equipment at Hanford this Spring. We need to have out-year funding to complete the hot, remote sizing work at T-Plant to cut up the Purex towers.

- RL-MW04 – Remote Decontamination of RH TRUW Debris to Support Reclassification into Non-TRUW Category

  This need is to support equipment for the M-91 facility and the schedule date has been pushed out to 2005. The TMFA stated that development in this area will start

in FY03 and that technologies have been developed that could serve as a starting point to meet this need.

- RL-MW05 - Remote Treatment of RH Soils and Other Solid Wastes Contaminated with Organics

  This need also supports equipment for the M-91 facility and the schedule date has been pushed out to 2005. The TMFA is not currently funding any specific activities in this area at this time. They stated that, in the past, EM-50 has funded efforts in this area and that some commercial companies are looking at ways to treat these wastes.

- RL-MW06 – Treatment of CH TRUW Liquid Wastes Contaminated with PCBs and Ignitables

  This waste stream is also a feed to the M-91 facility and as such the schedule has been moved out to 2005. The TMFA currently has no activities specific to this need that are underway. The TMFA is establishing a Complex-wide team to examine ways to treat PCB and other troublesome organic-containing MW. Efforts are underway to see if a demo at ATG can be run that would address this need.

- RL-MW013 – Non-Destructive Assay (NDA) of RH TRUW (High Beta/Gamma Field) to Meet WIPP Requirements

  This need does not need to be met until 2005 or 2006. If there is no RH assay required then this need disappears. The TMFA is funding the development of two technologies that could meet this need.

- RL-MW016 – System to Retrieve RH TRUW from Caissons

  This need is for a small quantity of Hanford waste that will go to the M-91 facility for treatment. The schedule for meeting this need has been pushed out. The TMFA is not addressing this need and will not in the near future.

- RL-MW017 – Treatment of MLLW Batteries

  It was recommended that the TMFA look across the complex to see if other sites have the same need. There are only four drum equivalents of these wastes at Hanford. The TMFA is coordinating disposal activities for this waste through the Waste Elimination Team.

- RL-MW018 – Treatment of MLLW Mercury Wastes

  Hanford again has only a small amount of Hg Waste that is MLLW. It is also an M-91 facility feed stream so the schedule has been pushed out. The TMFA is fully addressing this need and a number of technologies are now under development and in demonstration.

- RL-MW020 – Solidification of High Salt Wastes

  This need is to solidify the secondary waste stream in the 200 Area ETF to allow it to be disposed of at ERDF. This need statement will be rewritten as the future waste streams to be handled are changing. The streams are from the Tank Farms in the form of brines from multiple sources. Ken Quigley will determine how many drums of secondary waste have been produced in the past two years.

- RL-MW021 – CONTROL OF EQUIPMENT CORROSION CAUSED BY CHLORIDE

  This need is for dechlorination of a 200 Area ETF liquid waste stream and there are commercial companies that can meet this need. This need will be deleted.

- RL-MW022 – IDENTIFICATION AND CONTROL OF BIOLOGICAL FOULANTS

  This need is to address the problem of biological foulants in the 200 Area ETF that are causing excessive downtime to clean and maintain effected equipment. The TMFA will send someone to investigate the problem and draft a short report with recommendations. The subgroup agreed that this was the best course of action.

- RL-MW023 TRITIUM REMOVAL FROM WASTEWATER

  This need is to reduce the amount of tritium released from the 200 Area ETF after wastewater treatment. There is work now taking place throughout the world on this problem. There are solutions to this problem but the cost of treatment is too high. The TMFA has no specific activity in this area at this time.

- RL-MW025 – NDA OF CH TRUW TO MEET WIPP REQUIREMENTS FOR BURIAL BOXES

  The Hanford schedule to meet this need has been changed to 4-5 years in the future. The TMFA had given funding to Hanford for this need but the Site had to return the funding, as matching funds were unavailable. This project may be reinitiated in 2-3 years.

- RL-MW026 – GETTER FOR HYDROGEN

  This need to getter hydrogen inside drums and boxes containing TRU being shipped to WIPP is a problem common to all sites shipping to Carlsbad. The requirements are being examined now. The subgroup thought we should wait until the regulations are in place before working further on this need. The TMFA is working on the need also.

- RL-MW027 – CHEMICAL ANALYSIS TO MEET WIPP WASTE ACCEPTANCE REQUIREMENTS

  The requirements are still being formulated now. We will wait until regulations are finalized before trying to meet this need for remote characterization of chemical constituents in waste packages. The TMFA is not currently addressing this need.

- RL-MW028 – Integrity of Buried Large Containers

  The waste being retrieved will go to the M-91 facility and the schedule has been pushed out to 2005. The subgroup thought we should look for a subject matter expert to help with this need. The large containers are fiberglass reinforced plywood boxes that have been in the ground for more than 20 years. The TMFA is not addressing this need at this time.

- RL-MW029 – NDA of Large Buried Containers

  The wastes being retrieved are feed to the M-91 facility and the schedule has been pushed out for treatment. The need is to identify the container's contents at the burial site and allow them to be classified as LLW and left in place. The TMFA is funding a box/crate NDA system with Canberra but it is not for in-field use yet.

- RL-MW030 – Pu Contamination Control Large Container Load-In/Load-Out Systems

  This need is for Pu contamination control in the future M-91 facility and the schedule to meet this need has been pushed out. The need is to provide a bagless transfer system for large containers. The TMFA is working with others to develop a bagless transfer system that may be adaptable to larger containers. Work is scheduled to start in FY02 on this equipment.

- RL-MW07-S – Non-Intrusive, Non-Destructive Characterization Methods for Hazardous Chemical Components of MLLW

  At the present time there are no methods to identify non-radioactive, RCRA hazardous components of MLLW in drums without opening and sampling. The TMFA is working with the EMSP to include this need in their FY02 Call for Proposals for new assay techniques/concepts for RCRA metals and other RCRA hazardous materials.

- RL-MW027-S – New/Improved Technology for the Determination of Organic Constituents in Small Waste Samples

  This science need is to develop new methods of lab sampling that meet data quality objectives while reducing sample size requirements by over 100 times current methods. The TMFA will work with the EMSP to include this in their FY02 Call for Proposals.

- RL-MW028-S – Technology to Determine Radionuclide Speciation in Waste

  This science need is for a method to determine the oxidation states of metallic radionuclides in complex waste matrices. While the technology is commercially available, methods have not been developed for application to specific problems associated with Hanford waste. This method would be used in the Hanford

Analytical Laboratory. This need may be moved to the Tanks Subgroup to see if the Tank Focus Area would fund it. The TMFA will work with the EMSP to see if it could be added to the Call for Proposals.

- RL-SNF12 – TRU ION EXCHANGE COLUMNS DISPOSITION

  The TMFA did not address this need. They need to understand that it is a MW-related need and not a SNF one. We will refine this need in the future.

Jim Sloughter will group the needs into sets of common needs such as remote handling/robotics and characterization. Tina stated that Ecology would like to see the schedule dates moved up to finish clean up earlier. We need to show the TMFA our current schedule of work. Engineering Studies are now to be started in 2005. We could ask the TMFA to review the plans and provide funding for a subject matter expert to help with planning up front. This could speed up the process and may accelerate the schedule of deployment.

Kevin will look into whether there could be an open house during the cold demo of the size reduction for the towers in April/May. Jim Hanson will check to see if there are periodic conference calls with the TMFA and when they occur. We should be involved with them if they are occurring.

Mixed Waste Subgroup Meeting Attendees – 03/27/01

Bill Bonner	PNNL	372-6263
Judit German-Heins	NezPerce	(208) 843-7375
Jim Hanson	DOE-RL	372-4503
Kevin Leary	DOE-RL	373-7285
Tina Masterson-Hagen	Ecology	736-5701
Ken Quigley	WMH	376-7779
Jim Sloughter	NHC	375-2413
Steve Weakley	PNNL	372-4275